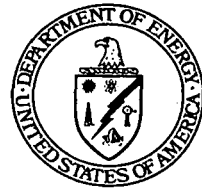


Department of Energy

Ohio Field Office
Fernald Area Office
P. O. Box 538705
Cincinnati, Ohio 45253-8705
(513) 648-3155



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MAY 31 2000

Mr. James A. Saric, Remedial Project Manager
U.S. Environmental Protection Agency
Region V-SRF-5J
77 West Jackson Boulevard
Chicago, Illinois 60604-3590

DOE-0729-00

Mr. Tom Schneider, Project Manager
Ohio Environmental Protection Agency
401 East 5th Street
Dayton, Ohio 45402-2911

Dear Mr. Saric and Mr. Schneider:

TRANSMITTAL OF REPORT ON ²³⁸U AND ²³²TH DOSE CALCULATIONS AND SIZE DISTRIBUTION MEASUREMENTS OF ATMOSPHERIC AEROSOLS AT FERNALD

This correspondence transmits for your information the subject report on research that was conducted by the Department of Energy's (DOE) Environmental Measurements Lab (EML). The research evaluated size fractionation of air particulate emissions from the Fernald Environmental Management Project (FEMP) to better define the dose received to the public from FEMP air emissions. The National Emissions Standards for Hazardous Air Pollutants (NESHAP) dose calculation does not take into account the fact that the dose contribution decreases with increasing particle size. NESHAP will continue to provide the standard by which the site's emissions are evaluated, however, with the expectation that emissions might increase with increased remedial activity, the DOE thought it would be reassuring to the stakeholders to quantify the dose from particulate emissions as accurately as possible.

The results of the EML study suggest that along the FEMP's eastern property boundary in excess of 70% of particulate emissions from the FEMP exceed 15 microns in diameter. Particles of this size are not generally deposited in the lung and therefore, do not contribute as significantly to dose as do particles of respirable size. The dose estimates, typically provided to the stakeholders by the DOE, assume a median particle size of one micron and therefore, may overestimate the dose by up to a factor of seven.

The DOE does not intend to modify either its monitoring approach or dose reporting based on this research at this time, since the dose estimates utilizing the standard approach comprise less than a few percent of the NESHAP limit. Should, however, the dose

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Mr. James A. Saric
Mr. Tom Schneider

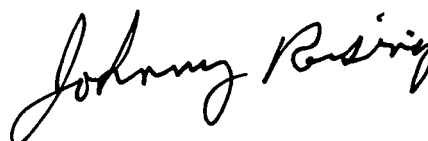
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estimates in the future indicate significant increases, the DOE may refine the dose estimates considering the respirable fraction of the particulate emissions and report it as well as the standard dose estimate. The EML researchers are available to conduct a workshop on the results of this study should you wish to learn more about this work.

If you have questions, please contact Kathleen Nickel at (513) 648-3166.

Sincerely,



Johnny W. Reising
Fernald Remedial Action
Project Manager

FEMP:Nickel

Enclosure

cc w/enclosure:

R. J. Janke, OH/FEMP
M. Murphy, USEPA-V, SRF-5J
T. Schneider, OEPA-Dayton
F. Bell, ATSDR
F. Hodge, Tetra Tech
AR Coordinator, Fluor Fernald, Inc./78

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J. Harmon, Fluor Fernald, Inc./90
S. Hinnefeld, Fluor Fernald, Inc./31
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